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ECONOMICS &
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UNIVERSIDADE DE LISBOA

MASTER
FINANCE

MASTER'S FINAL WORK
DISSERTATION

The Characteristics of Self Perceived Successful Traders

MARIANA EDUARDA ROCHA BRAZ

OCTOBER – 2018

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Supervision:
Professor Maria João Guedes

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Abstract

In a market environment of high volatility and information ambiguity, traders' success is defined not only by their technical skills and knowledge about finance but by many other traits that help them to deal with the fast changes that are always happening in the market. Traders need to have some psychological characteristics that help them dealing with all the adversities that happen in their day-to-day reality. This dissertation will focus on some of the psychological characteristics namely risk tolerance, emotional intelligence, proactivity and impulsivity. Due to the great influence of traders, it is important, for both academic and practical purposes, to study how these traits affect their performance. A sample of traders from all over the world was used in order to assess the relationship between these traits and performance. Furthermore, performance was measured using a subjective, self-reporting measure and an objective measure. The results show that risk tolerance, emotional intelligence and proactivity are positively related to trader's performance.

Keywords: Emotional Intelligence; Impulsivity; Proactivity; Risk Tolerance; Traders; Trader's Performance.

Resumo

O dia-a-dia dos traders é dominado por um mercado bastante volátil e composto por informações ambíguas. O sucesso dos traders é não só definido pelas competências técnicas e pelos conhecimentos financeiros que possuem, mas também por muitas outras características que os ajudam a lidar com as rápidas mudanças que estão sempre a ocorrer no mercado. Os traders precisam de ter algumas características psicológicas que os ajudem a lidar com todas as adversidades que acontecem na sua realidade quotidiana. Esta dissertação incidirá sobre algumas dessas características psicológicas, nomeadamente a tolerância ao risco, inteligência emocional, proactividade e impulsividade. Devido à grande influência que os traders têm, é importante, para fins académicos e práticos, estudar de que forma é que essas características afetam o desempenho obtido nos investimentos que fazem no mercado financeiro. Uma amostra de traders de todo o mundo foi usada para avaliar a relação entre essas características e o desempenho obtido nos investimentos que fazem no mercado financeiro. Ademais, o desempenho foi avaliado através de uma medida subjetiva (percepcionada) e uma medida objetiva. Os resultados mostram que a tolerância ao risco, a inteligência emocional e a proactividade estão positivamente relacionadas com o desempenho dos traders.

Palavras Chave: Impulsividade; Inteligência Emocional; Performance dos Traders; Proactividade; Tolerância ao Risco; Traders;

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Abbreviations

AG – Agreeableness

AmInv – Amount Invested in Active Trading

AmInvInPer – Amount Invested in Percentage of the annual income

AX – Anxiety

CAI – Comparison to peers about the annual income

CN – Conscientiousness

EI – Emotional Intelligence

EX – Extroversion

FSF – Field of Study Finance Related

G – Gender

IN – Intellect

LPREM – Lack of Premeditation

LPRES – Lack of Perseverance

LSch – Level of school completed

MS – Marital Status

MSCEIT – Mayer-Salovey-Caruso Emotional Intelligence Test

NE – Neuroticism

NU – Negative Urgency

PERF – Performance

PF – Profit Factor

PR – Proactivity

PU – Positive Urgency

PurBInv – Purpose behind Investment

RT – Risk Tolerance

SC – Self-Control

SS – Sensation Seeking

SP – Spirituality

1 Introduction

In order to be successful, traders do not just need to know about finance but they also need to possess some psychological characteristics that may help them getting to the results they want. They need to forecast the future when making investment decisions in order to get positive results. They need to control and manage their emotions even when everything is not turning the way it was supposed to (Ameriks et al, 2009).

The daily reality of traders is dominated not only by having to make investment decisions in a market environment of high volatility and informational ambiguity but also by the need to be special - to outperform competitors on a consistent basis. Investors who can trade against this cycle of emotion - buying when others are panicking and selling when others are basking in their newfound fortune - should be able to beat the market index, but to do this requires some quite good ability of managing emotions and discipline. According to Ameriks et al (2009), to outperform in the market requires information, knowledge and a lot of technical qualities but also a pack of psychological characteristics.

Wood (2010) notes that the reaction of investors in the market is a combination of psychology, social psychology and the functioning of the brain in their decision making process. Similarly, Ameriks et al (2009) examine the role of emotions in the investment decision-making process. They study the degree to which investors identify, understand, interpret and effectively use their emotions. For example, they find that Emotional Intelligence (EI) will add value in decisions with uncertain outcome. According to Ameriks et al (2009) those high in EI are somewhat more conservative and less aggressive in risk taking than those low in EI.

The idea for this dissertation arises from the fact that individual differences are not simply noise within economic and financial models but, rather, play a larger role. As Ameriks et al (2009) results suggests, simply identifying personality types might reveal particular biases or predispositions that affect investment outcomes. The main objective is to contribute and investigate the relationship between some characteristics of traders and performance by making an exploratory study in the behavioral finance area.

To the best of my knowledge, it is the first study that attempts to understand some psychological traits that affect the performance of traders. The chosen characteristics are risk tolerance, proactivity, emotional intelligence and impulsivity. It is an exploratory study that has never been done before, in the behavioral finance area that aims to contribute to the understanding of how each of the above psychological traits influences and affect the performance of traders.

The dissertation is separated into five chapters, starting with the Introduction. Chapter 2 contains the literature review and presents the proposed hypothesis; chapter 3 describes the data and methodology used; chapter 4 presents the obtained results and chapter 5 contains the conclusions and limitation of the dissertation, as well as suggestions for future research.

2 Literature Review and Hypothesis Development

"Trading is like dating: You want to keep initial expectations reasonable, enjoy it while it's happening, and learn from it once it's over." (Osborn, 2016, p 4)

2.1 Traders

Traders are those who invest directly in financial markets. A trader can work for a financial institution, in which case he trades with the company's money and credit, and earns a combination of salary and bonus. Alternatively, a trader can work for himself, which means that he is trading his own money and credit but keeps all of the profit for himself. Most of traders who trade on their own account work from home or in a small office, and utilize a discount broker and electronic trading platforms.

A trader can buy and sell any kind of financial instruments such as stocks, bonds, commodities, derivatives, mutual funds, etc. The main idea is that a trader invests in Financial Markets that correspond to any of the following markets: the Stock Markets, Bond Markets, Commodity Markets, Derivatives Markets, Money Markets, Futures Markets, Foreign Exchange Markets, Spot Market or even Interbank lending Market.

Traders can have all kind of trading strategies and depending on the strategies followed, they can be called as day traders, floor traders, high-frequency traders, pattern day traders, rogue traders or even stock traders. Specifically, a day trader is a speculator that sells and buys financial instruments within the same trading day.

2.2 Trading Performance

Trading performance can be expressed in many forms and complex algorithms, but it is essentially the mechanism used to evaluate a trader's return from the investments made on active trading. It can include an immensity of measurement approaches, and that's the challenging thing with measuring it (Fenton - O'Creevy et al., 2011).

There are many aspects that can influence financial outcomes, so the relationship between skill and financial outcomes will not be straightforward and it is necessary to be very careful about which measures of performance are adopted. The outcomes a trader achieves depends a lot on the risk that is taken. Another factor that needs to be taken into

account is the market conditions, because one trader may make a greater return than another, not because of greater skill but because he is operating in different market conditions. A third important factor is the fact that traders operate under different risk limits, a trader given higher limits may perform better by making the same trades but for larger sums than a colleague with lower risk limits. For these reasons, a simple financial measure such as daily P&L may not be a good measure of traders' performance. Besides this, not all traders use the same measures to keep on track of their performance. (Fenton-O'Creevy et al., 2011)

A traders' performance is a broad measure, thus a reasonable proxy for global trader performance may be a comparison of the success of their investments on active trading to its peers. There remain some problems of reliability and the measure is weak, since it is a subjective one and may not be very accurate since it is influenced by the respondents' personal judgment and are open to interpretation and opinion.

Alternatively, any other possible way to measure a trader's performance is to use objective measures such as the total return, the profit factor or the gain-to-pain ratio. The profit factor is an objective, numeric measure that is the ratio between the absolute value of winning trades and the absolute value of losing trades. It allows traders to see the amount of money they are making relative to their losses, regardless of the number of trades. The gain to pain ratio is calculated by dividing the sum of monthly portfolio gains by the absolute value of monthly portfolio losses. Nevertheless, these measures are still not perfect, as it remains the problem that arises from the fact that not all traders use the same measure to know how efficiently they are investing their money and the final return achieved.

2.3 Risk Tolerance

People face risk in their daily life. Willingness to take risk can be analysed by looking at someone behavior in the street, on the road while driving and in many other cases. In finance, being aware of financial risk is an important matter to achieve investment goals. Financial risk is the risk that the cash flow of an issuer will not be adequate to meet its financial obligations. Financial risk can also be referred to the

additional risk that a firm's stockholder bears when the firm uses debt and equity (Harvey, 2012).

The notion of uncertainty is often viewed as risk and measured as variance, standard deviation or covariance (Lashgari, 2015). The attitude toward risk is the parameter that differentiates between the utility functions of different individuals (Pratt, 1964) and is intended as nothing more than a descriptive label for the concavity or convexity of the utility function.

Grable (2000, p 625) defines risk tolerance as "the maximum amount of uncertainty that someone is willing to accept when making financial decisions". Risk averse individuals are individuals that are less tolerant to risk hence they seek to minimize it. However, some individuals prefer risk and are therefore called risk-seekers or risk lovers. Risk lovers are naturally more tolerant towards risk.

Markowitz (1952) noted that risk and return are positively related, and as such, investors who demand a higher return must be willing to accept a higher level of risk (i.e., volatility). The risk return trade-off is defined as the fact that higher risk is associated with greater probability of higher return and lower risk with a greater probability of smaller return. The trade-off that an investor faces between risk and return while considering investment decisions is called the risk return trade off.

According to the risk-return trade-off, invested money can render higher profits only if the investors are willing to accept the possibility of losses, therefore taking more risk on their financial decisions. Hence, individuals who appear to show high tolerance to risk (less risk averse) should achieve better returns. Since investment performance is the return on an investment portfolio, return and the performance of traders are directly proportional (Feibel, 2003).

Hypothesis 1: Traders who have higher tolerance to risk have higher performance on their investments in active trading.

2.4 Impulsiveness

Impulsiveness is the immediate response to thoughts or deeds without any consideration of the appropriateness or consequences. Impulsiveness can also be defined as the inclination to act on impulse instead of careful reflection (Whiteside & Lynam, 2001).

According to Whiteside & Lynam (2001), there are four distinct personality facets associated with impulsive-like behavior, which are (lack of) premeditation, labeled urgency, (lack of) perseverance, and sensation seeking. According to Whiteside & Lynam (2001), premeditation refers to the tendency to think and reject on the consequences of an act before engaging in that act. Low scorers are thoughtful and deliberative, whereas high scorers act on the spur of the moment and without regard to the consequences. Urgency refers to the tendency to experience strong impulses, frequently under conditions of negative effect. High scorers on urgency are likely to engage in impulsive behaviors in order to alleviate negative emotions despite the long-term harmful consequences of these actions. Positive urgency is referred to the tendency to act rashly when experiencing extremely positive effect. While positive urgency is associated with risky behaviors undertaken while in an extremely positive mood, negative urgency is associated with risky behaviors undertaken while in an extremely negative mood (Cyders & Smith, 2009). The fourth distinct personality facet associated with impulsive-like behavior, perseverance refers to an individual's ability to remain focused on a task that may be boring or difficult. Individuals that have low scores in (lack of) perseverance are able to complete projects and to work under conditions that require resistance to distracting stimuli. The conceptualization of sensation seeking, the fifth distinct personality facet associated with impulsive-like behavior, incorporates two aspects: a tendency to enjoy and pursue activities that are exciting and an openness to trying new experiences that may or may not be dangerous. High scorers enjoy taking risks and engaging in dangerous activities, whereas low scorers avoid risk and danger.

According to Whiteside & Lynam (2001), impulsive investors may engage in more frequent trading than less impulsive investors. Impulsive investors may not fully analyze the situations they are in and, as a result, may make decisions too quickly. Being

not impulsive can also create problems for an investor, however, because hesitation or inaction can be a long-term liability.

To be impulsive and consequently making decisions without clearly thinking to the rationale lead to situations in which traders fail to act upon their ideas and plans. Hence, impulsive like-behavior will affect negatively trader's performance (Steenbarger, 2002).

Hypothesis 2: Traders who are more impulsive will deliver lower performance on their investments in active trading.

2.5 Proactivity

A proactive personality is a "relatively stable tendency" characterized by forecasting future changes, planning, and perseverance (Bateman & Crant, 1993).

Proactive people scan for opportunities, show initiative, take action, and persevere until they reach closure by bringing about change. They are pathfinders who change the markets, or find the best investments and solve problems. They take it upon themselves to have an impact on the world around them. People who are not proactive exhibit the opposite patterns - they fail to identify, let alone seize, opportunities to change things. They show little initiative, and rely on others to be forces for change. They passively adapt to, and even endure, their circumstances (Bateman & Crant, 1993).

Consequently, a person that is perceived to be more proactive will forecast future changes, plan their investments better and have a better performance and return. According to Steenbarger (2002), trading is all about defining, discovering, and realizing value in a market place, so successful traders have a proactive side to their personalities. Successful traders possess a vision of what they want and work in a directed way to achieve it, since successful investment combines research and idea generation with the management of positions and portfolios. Proactivity may be the key to the success of traders, so they can adapt to the ever-changing markets (Steenbarger, 2002).

Hypothesis 3: Traders who have higher levels of proactivity will deliver higher performance on their investments in active trading.

2.6 Emotional Intelligence

Emotional intelligence (EI) is defined as a set of skills concerned with the processing of emotion-relevant information and measured with ability-based scales (Mayer et al, 2010). EI can also be defined as the ability to recognize and use emotions productively. (Ameriks et al, 2009) EI is a psychological characteristic that describes how effectively an individual identifies, understands, and regulates emotions and then uses them in problem solving and decision-making.

According to Tuckett & Taffler (2012), the relationships fund managers have with their stocks are highly emotional in nature. Even though fund managers claimed their competitive advantage was their ability to be emotion free, they often got carried away when talking about the stocks. They revealed that they liked and even loved stock.

There is a cycle of emotion that is characterized by following the crowd and start selling and buying when others are doing the same. Investors who can trade against this cycle of emotion — buying when others are panicking and selling when others are basking in their newfound fortune — should be able to beat the market index. Most investors have difficulty overcoming fear when prices are falling, so they buy too little; then, they become subject to greed when prices are rising and sell too little or hold too long. The advantage of being able to manage one's emotions productively is not confined to such market timing (Ameriks et al, 2009).

EI is considered to affect investment decisions in three different ways. Firstly is that momentary moods, especially stemming from negative feelings, such as sadness or anger, influence real economic decisions and so investors with the ability to use emotions intelligently make investment decisions when they are in a positive frame of mind. Secondly, investors with the capacity to understand and manage their emotions intelligently should be less influenced than other investors by the tone of external information sources in making investment decisions. For last, it is known that individuals with lower emotional intelligence consistently make poor decisions and, contrary to normal participants, show an inability to learn from their previous mistakes. Consequently individuals with higher levels of emotional intelligence focus on learning from previous mistakes (Ameriks et al, 2009).

Hypothesis 4: Traders that show higher levels of emotional intelligence will deliver higher performance on their investments in active trading.

3 Data description and Methodology

3.1 Data Description

Data was obtained through a questionnaire using the platform *Qualtrics*. The questionnaire was pretested by 5 individuals that were representative of the targeted respondent, traders or individuals that invest directly in financial markets. The pre-test enable to find any problem the respondents may encounter while answering the questions.

The questionnaire took on average 10 minutes to be completed and it was distributed via Social Media and via a Portuguese website called *Economia e Finanças*. The social Media Channels used were Facebook, Instagram, Twitter and Linkedin, being this last one the most useful channel where more than a half of the sample was achieved.

The initial sample includes more than 600 people, composed by people who invest directly in financial markets, people who do not invest and people that did not finish the questionnaire. The sample reflects data from 2018. Individuals were excluded based on two criteria: individuals that do not invest directly in financial markets because only those who do so are a matter of interest for this dissertation; individuals that did not finish the questionnaire. The final sample has 212 traders who invest directly in financial markets and who finished the questionnaire. However, only 140 of the respondents know what is the value of the profit factor they have achieved in the most recent year.

A detailed description of the sample is available in Appendix I. Out of the 212 individuals, 14 are females (6.6%), 80 (37.7%) are in a relationship for a long time, 75 (35.4%) never married, being that the most representative group. The average age of the sample is 37 years old while the youngest trader that answered the questionnaire is 18 years old and the older one is 84 years old. About 59.4% of traders have studied Finance as main field of study. About spirituality, 42% of the individuals consider themselves as religious/spiritual.

The purpose behind investment of 135 (63.7%) traders is to cover future short-term expenses. On the other side, only 12.7% of traders invest with the purpose of self-learning. The second most frequent level of amount invested in active trading ranges from 5 to 25 thousand. When asked to compare with their peers about the annual income earned, 39.6% of traders consider to earn somewhat below average, while only 4.7% of traders consider to earn far above average. Around 41.98% of traders have invested 20% to 40% of their annual income on active trading. There are a total of 49 different nationalities among the individuals that answered the questionnaire and exactly 89 Portuguese traders answered it.

3.2 Measures and Scales

The objective of this dissertation is to investigate how each component of the overarching psychological constructs (emotional intelligence, impulsiveness, proactivity and risk tolerance) relates to the performance of traders. For that, it is necessary to measure trader's performance, risk tolerance, impulsiveness, proactivity and emotional intelligence and some socio-demographic variables.

Performance of traders

Traders' performance can be assessed through the use of objective or subjective measures. Objective measures of performance can be collected directly from the questionnaire but since not all traders use the same measures to keep on track of their performance, it was difficult to find an unanimous and common measure of performance. Some traders use the profit factor, others the total return or other kind of ratios and there are many other measures that traders use to keep on track of their performance.

In order to measure performance, it was used a self-reported variable that can take on one of five possible values, assigning each trader to a particular ordinal category based on some qualitative property. Respondents were asked to compare themselves to their peers on the success of their investments on active trading, ranging from 1 = they consider themselves as far below average to 5 = they consider themselves as far above average on their investment performance.

Another measure of performance is the profit factor. It is an objective, numeric measure that is the ratio between the absolute value of winning trades and the absolute value of losing trades. It allows traders to see the amount of money they are making relative to their losses, regardless of the number of trades made. This measure was collected via questionnaire and the identity of the respondents was kept anonymous.

Risk Tolerance

Financial risk tolerance is measured by using a scale created by Grable and Lytton (1999). This financial risk tolerance offers users an economical way to differentiate between individuals who are more or less likely to take financial risk (Kuzniak, Rabbani, Heo, Ruiz-menjivar, & Grable, 2015).

In Grable and Lytton financial risk tolerance scale, the score for each question ranges from 1 to 4 or from 1 to 3 depending on each question. The final risk tolerance score is achieved by the sum of the score of all chosen statements and the higher the final value the more tolerant the individual is to risk. It is a 13-item scale and the final score ranges from 13 to 47 points. Some examples of statements included in the questionnaire are “In general, how would your best friend describe you as a risk taker?” or “If you unexpectedly receive 20000$ to invest, what would you do?”. The Cronbach’s alpha coefficient is 0.512, showing the reliability of the measure is acceptable (DeVellis, 1991).

Impulsivity

Impulsivity was measured using the short version of Urgency, Premeditation (Lack of), Perseverance (lack of), Sensation seeking, Positive Urgency Impulsive Behavior scale (UPPS-P Impulsive Behavior scale), the S-UPPS-P Impulsive behavior scale. The scale was developed and validated by Lynam (2013) and derived from UPPS Impulsive Behavior Scale (Whiteside & Lynam, 2001). Cyders, Littlefield, Coffrey and Karyadi (2015) examined the scale short-version. Since the subject of the dissertation is traders, who usually have schedules and limited time available, a shorter scale was used. The main advantage of this scale is its shorter dimension, making it easier to fill and less time consuming. Additionally, the results from the S-UPPS-P scale are still credible, since

its authors proved a high correlation with the results obtained using the original UPPS (Cyders, Littlefield, Coffrey and Karyadi, 2015).

The scale has 20 items ranging from 1 = Strongly Disagree to 4 = Strongly Agree that indicated the extent to which participants agreed or disagreed on each item.

Each category of impulsiveness has 4 items and was scored by the sum of the score of all chosen statements. The higher the final value, the more pronounced the category is in the individual. Some example of items included are "I generally like to see things through to the end" and "when I feel bad, I will often do things I later regret in order to make myself feel better now". The Cronbach's Alpha coefficient of the scale is 0.728, which shows an acceptable reliability of the measure (DeVellis, 1991).

Proactivity

It was selected six items from a measure of proactive personality called personal initiative questionnaire that has been shown to be equivalent to the proactive personality measure by Bateman and Crant (1993) in a recent meta-analysis (Tornau & Frese, 2013). These items were selected on the basis of their relevance to the core components of proactive personality: action orientation (e.g., "Whenever there is a chance to get actively involved, I take it."), change orientation (e.g., "Whenever something goes wrong, I search for a solution immediately."), opportunity recognition and utilization (e.g., "I use opportunities quickly in order to attain my goals."), and realizing changes (e.g., "I am particularly good at realizing ideas.").

Participants indicated the extent to which they agreed or disagreed on each item ranging from 1 = strongly disagree to 5 = strongly agree. Li, Fay, Frese, & Harms (2014) conducted a validation study to demonstrate the convergent validity of this proactive personality measure.

The final proactivity score is the sum of the score of all statements and the higher the final value the more proactive the individual is. The Cronbach's alpha coefficient of this scale is 0.763 showing the reliability of the measure is good (DeVellis, 1991).

Emotional Intelligence

Mayer et al (2003) developed the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT), it is an ability-based test designed to measure emotional intelligence. MSCEIT consists of 141 items and takes 30-45 minutes to complete. Since this test takes a long time and is not available for free, this measure was not considered in this dissertation.

Investors who score highly on emotional intelligence (EI) tend to exhibit behaviors that correlate strongly with good investment performance (Ameriks et al, 2009). Ameriks et al (2009) present the most common ways that EI affect investment decision making. To that end, it was included in the questionnaire questions that were related with this behavior. The questionnaire includes three items where participants indicated the extent to which they agreed or disagreed on each item ranging from 1 = strongly disagree to 5 = strongly agree. Examples of questions are "I usually make decisions when I am in a positive frame of mind", "I am very influenced by the tone of external information sources when making investment decisions" and "I usually reflect and learn from previous mistakes".

The final EI score was obtained by the sum of the answers of all the items. Higher scorers reflect higher emotional intelligence when it comes to investment decision making. The Cronbach's alpha coefficient is 0.225, showing that the reliability of the measure is considered reasonable according to Landis, J.R., Koch, G.G. (1977) or considered bad according to DeVellis (1991). This low value can be justifiable by the fact that the scale only includes three items and the lower the number of items included in the scale, the lower the Cronbach's alpha. Additionally, if the average inter-item correlation is low, alpha will be low as well.

3.3 Variables

Table I presents the definitions of the variables.

Table I - Variables of the Model

	Variable	Description
Dependent Variables	Performance (PERF)	Trader Performance given by his/her perception of

		success of the investments on active trading comparing to his/her peers, a self-reporting measure. 1 if they consider themselves to perform far below average, 2 if they consider themselves to perform somewhat below average, 3 if they consider themselves to perform average, 4 if they consider themselves to perform somewhat above average, 5 if they consider themselves to perform far above average
	Profit Factor (PF)	Profit Factor that traders achieved in the most recent year
Independent Variables	Independent Related Variables	
	Risk Tolerance (RT)	Risk Tolerance score given by the Grable & Lytton Risk Tolerance scale
	Emotional Intelligence (EI)	Emotional Intelligence score
	Positive Urgency (PU)	Positive Urgency Score achieved by the SUPPS Scale

Negative Urgency (NU)	Negative Urgency Score achieved by the SUPPS Scale
Sensation Seeking (SS)	Sensation Seeking Score achieved by the SUPPS Scale
Lack of Premeditation (LPREM)	Lack of Premeditation Score achieved by the SUPPS Scale
Lack of Perseverance (LPRES)	Lack of Perseverance Score achieved by the SUPPS Scale
Proactivity (PR)	Proactivity Score achieved by the Proactivity Scale
Marital Status (MS)	1 if married; 2 if widowed; 3 if divorced; 4 if separated; 5 if never married; 6 if in a relationship for a long time
Gender (G)	0 if male; 1 if female
Purpose Behind Investment (PurBInv)	1 if self-learning; 2 if long term wealth creation; 3 if future short term expenses; 4 if other reasons
Spirituality (SP)	1 is spiritual; 2 if not sure; 3 if an atheist
Comparison to Peers about the annual income(CAI)	1 if far above average; 2 if somewhat above average; 3 if average; 4 if somewhat below average; 5 if far below average

Amount Invested on Active Trading (AmInv)	1 if less than 5 TEUR; 2 if 5-25TEUR; 3 if 25-50 TEUR; 4 if 50-75 TEUR;5 if 75-100 TEUR; 6 if 100-125 TEUR; 7 if more than 125 TEUR (TEUR – Thousand Euros)
Amount invested in percentage of the annual Income (AmInvInPer)	1 if less than 20%; 2 if 20-40%; 3 if 40-60%; 4 if 60-80%; 5 if 80-100%
Level of School Completed (LSch)	1 if no schooling completed; 2 if high school ; 3 if Trade/Technical/Vocational training; 4 if associate degree; 5 if Bachelor's Degree; 6 if Master's Degree; 7 if Professional Degree; 8 if Doctorate Degree
Field of Study Finance Related (FSF)	1 if yes; 0 if no
Age	Age of the traders

To investigate the relationship between the performance of traders and each of the psychological characteristics according to the framed hypothesis, a regression analysis was made for 4 models, using the IBM SPSS Statistics Software. The models are presented in the equations below.

Performance is the dependent variable in the first 2 models. Since performance is a categorical, ordinal variable, an ordinal logistic regression was performed in order to

explain this independent variable. Equation 1 concerns only in the relationship between performance and each of the trader characteristic being measured (risk tolerance, emotional intelligence, proactivity, positive urgency, negative urgency, sensation seeking, lack of perseverance, lack of premeditation). Equation 2 adds some control variables (age, field of study, gender, marital status, purpose behind investment, amount invested in active trading, amount invested in percentage of the annual income, level of school completed and comparison to peers about the annual income).

Profit factor is the dependent variable in the next 2 equations, equation number 3 and 4. Since profit factor is a continuous variable, a linear regression was performed in order to explain this independent variable. Equation 3 concerns only to the relationship between performance and each of the trader characteristic being measured (risk tolerance, emotional intelligence, proactivity, positive urgency, negative urgency, sensation seeking, lack of perseverance, lack of premeditation). Equation 4 adds some control variables (field of study, gender, marital status, purpose behind investment, amount invested in active trading, amount invested in percentage of the annual income, level of school completed and comparison to peers about the annual income).

For all equations, α represents the constant, β the coefficients to estimate and ε is the error term.

(1) $$\boldsymbol{Perf} = \boldsymbol{\alpha} + \boldsymbol{\beta}_1 \mathrm{PU} + \boldsymbol{\beta}_2 \times \mathrm{NU} + \boldsymbol{\beta}_3 \times \mathrm{SS} + \boldsymbol{\beta}_4 \times \mathrm{LPRES} + \boldsymbol{\beta}_5 \times \mathrm{LPREM} + \boldsymbol{\beta}_6 \times \mathrm{PR} + \boldsymbol{\beta}_7 \times \mathrm{EI} + \boldsymbol{\beta}_8 \times \mathrm{RT} + \varepsilon$$

(2) $$\boldsymbol{Perf} = \boldsymbol{\alpha} + \boldsymbol{\beta}_1 \mathrm{PU} + \boldsymbol{\beta}_2 \times \mathrm{NU} + \boldsymbol{\beta}_3 \times \mathrm{SS} + \boldsymbol{\beta}_4 \times \mathrm{LPRES} + \boldsymbol{\beta}_5 \times \mathrm{LPREM} + \boldsymbol{\beta}_6 \times \mathrm{PR} + \boldsymbol{\beta}_7 \times \mathrm{EI} + \boldsymbol{\beta}_8 \times \mathrm{RT} + \boldsymbol{\beta}_9 \times \mathrm{MS} + \boldsymbol{\beta}_{10} \times \mathrm{G} + \boldsymbol{\beta}_{11} \times \mathrm{SP} + \boldsymbol{\beta}_{12} \times \mathrm{PupBInv} + \boldsymbol{\beta}_{13} \times \mathrm{CAI} + \boldsymbol{\beta}_{14} \times \mathrm{AmInv} + \boldsymbol{\beta}_{15} \times \mathrm{AmInvInPer} + \boldsymbol{\beta}_{16} \times \mathrm{LSch} + \boldsymbol{\beta}_{17} \times \mathrm{FSF} + \varepsilon$$

(3) $$\boldsymbol{PF} = \boldsymbol{\alpha} + \boldsymbol{\beta}_1 \mathrm{PU} + \boldsymbol{\beta}_2 \times \mathrm{NU} + \boldsymbol{\beta}_3 \times \mathrm{SS} + \boldsymbol{\beta}_4 \times \mathrm{LPRES} + \boldsymbol{\beta}_5 \times \mathrm{LPREM} + \boldsymbol{\beta}_6 \times \mathrm{PR} + \boldsymbol{\beta}_7 \times \mathrm{EI} + \boldsymbol{\beta}_8 \times \mathrm{RT} + \varepsilon$$

$$(4)\ \boldsymbol{PF} = \boldsymbol{\alpha} + \boldsymbol{\beta}_1 \mathrm{PU} + \boldsymbol{\beta}_2 \times \mathrm{NU} + \boldsymbol{\beta}_3 \times \mathrm{SS} + \boldsymbol{\beta}_4 \times \mathrm{LPRES} + \boldsymbol{\beta}_5 \times \mathrm{LPREM} + \boldsymbol{\beta}_6 \times \mathrm{PR} + \boldsymbol{\beta}_7 \times \mathrm{EI} + \boldsymbol{\beta}_8 \times \mathrm{RT} + \boldsymbol{\beta}_9 \times \mathrm{MS} + \boldsymbol{\beta}_{10} \times \mathrm{G} + \boldsymbol{\beta}_{11} \times \mathrm{SP} + \boldsymbol{\beta}_{12} \times \mathrm{PupBInv} + \boldsymbol{\beta}_{13} \times \mathrm{CAI} + \boldsymbol{\beta}_{14} \times \mathrm{AmInv} + \boldsymbol{\beta}_{15} \times \mathrm{AmInvInPer} + \boldsymbol{\beta}_{16} \times \mathrm{LSch} + \boldsymbol{\beta}_{17} \times \mathrm{FSF} + \varepsilon$$

4 Results

4.1 Descriptive Statistics

Table II shows the descriptive statistics regarding trader's performance and their profit factor, the dependent variables. The Table also shows the descriptive statistics regarding risk tolerance, emotional intelligence, proactivity, positive urgency, negative urgency, lack of perseverance, lack of premeditation, sensation seeking and the remaining independent variables, the control variables.

Table II - Descriptive Statistics of trader's performance, profit factor and independent variables

	N	Min.	Max.	Mean	SD
Performance	212	1	5	3,51	0,95
Profit Factor	140	0,1	14	2,41	2,38
Risk Tolerance	212	21	42	28,41	3,88
Emotional Intelligence	212	7	15	11,39	1,84
Proactivity	212	14	30	24,29	3,42
Positive Urgency	212	4	15	7,50	2,66
Negative Urgency	212	4	16	7,91	2,68
Lack of Perseverance	212	4	13	7,08	2,03
Lack of Premeditation	212	3	14	7,06	1,91
Sensation Seeking	212	4	16	11,34	2,73
Age	212	18	84	36,99	12,48

Note: N is the number of observations; Min. is the minimum; Max. is the maximum; SD is standard deviation.

4.2 Regression Models

Table III shows the results of the Ordinal Regressions, with trader performance as the only dependent variable. Each column shows the results from the corresponding equation, equation 1 and equation 2 that includes the control variables.

Table III - Ordinal Regression Model Results

Variables	(1)	(2)
Risk Tolerance – H1	0,123***	0,138**
	(0,042)	(0,058)
Emotional Intelligence – H4	0,110	0,125
	(0,105)	(0,135)
Proactivity – H3	0,116*	0,190**
	(0,064)	(0,084)
Positive Urgency – H2	-0,080	-0,118
	(0,09)	(0,122)
Negative Urgency – H2	0,046	0,189*
	(0,077)	(0,109)
Sensation Seeking – H2	-0,059	-0,137*
	(0,063)	(0,079)
Lack of Perseverance – H2	0,109	0,235**
	(0,096)	(0,115)
Lack of Premeditation – H2	0,048	0,089
	(0,097)	(0,128)
Gender – Male		-2,838*
		(1,358)
Field of study Finance Related – Yes		0,367
		(0,404)
Spiritual – Yes		-0,228
		(0,479)
Spiritual – Not sure		-0,222
		(0,485)
Marital Status – Married		-0,274
		(0,607)

Marital Status – Widowed	-1,373
	(1,545)
Marital Status – Divorced	-0,764
	(1,025)
Marital Status – Separated	-3,140*
	(1,609)
Marital Status – Never Married	-0,490
	(0,635)
No Schooling Completed	-1,943
	(2,581)
High School	0,576
	(1,266)
Trade/ Technical / Vocational Training	0,739
	(1,263)
Associate Degree	1,222
	(1,622)
Bachelor's Degree	-0,555
	(1,086)
Master's Degree	-0,008
	(1,078)
Professional Degree	-0,226
	(1,34)
Amount Invested in Active Trading <5 TEUR	0,501
	(0,605)
Amount Invested in Active Trading 5-25 TEUR	0,656
	(0,600)
Amount Invested in Active Trading 25-50 TEUR	-1,232*
	(0,660)
Amount Invested in Active Trading 50-75 TEUR	-0,080
	(1,039)
Amount Invested in Active Trading 75-100 TEUR	-1,181
	(1,258)

Amount Invested in Active Trading 100-125 TEUR		-1,427 (1,146)
0%-20% Invested in % of annual income		0,054 (0,6)
20%-40% Invested in % of annual income		-0,080 (1,039)
40%-60% Invested in % of annual income		0,504 (0,716)
60%-80% Invested in % of annual income		1,207 (0,851)
Annual Income in comparison to peers – far above average		6,299*** (1,335)
Annual Income in comparison to peers – somewhat above average		4,949*** (1,262)
Annual Income in comparison to peers – average		3,324*** (1,201)
Annual Income in comparison to peers – somewhat below average		0,161 (1,417)
Investment Purpose – self-learning		1,116 (0,844)
Investment Purpose – long term wealth creation		0,909 (0,654)
Investment Purpose – Future short term expenses		0,014 (0,982)
Observations	212	212
Pseudo R-squared	0,125	0,551

Note: Robust errors in parenthesis; *, **, *** indicate significance levels of 10%, 5% and 1%, respectively.

Table III also shows in all estimated regressions that there is a positive and significant association between risk tolerance and trader's performance. The value of the estimated risk tolerance coefficients is positive in all equations. The higher value is obtained in the presence of control variables and so it can be concluded that the results are robust in the presence of several control variables. Hypothesis 1 is, then, not rejected

because the relation between risk tolerance and performance is always positive and significant, for 1% and 5% level, in equation 1 and 2, respectively.

It can also be observed in all estimated regressions, from Table III, that proactivity has a positive association with trader's performance. The value of the estimated proactivity coefficient is always positive and the highest value is obtained in equation 2, in the presence of control variables. These results can be considered reliable since proactivity is not the only variable that will affect trader's performance, so it is a good indicator if proactivity's effect on trader's performance increases as more variables are added to the model. It can be concluded that the proposed hypothesis number 3 is not rejected since proactivity's coefficient is always positive and significant, for a 10% and 5% level, respectively for the two equations.

Furthermore, the results in Table III show that it can be observed some effects of impulsivity on trader's performance. Negative Urgency and lack of perseverance have a positive relation with trader's performance, leading to the rejection of the proposed hypothesis, hypothesis 2. Sensation seeking has a negative relation with trader's performance. Thus, the proposed hypothesis is not rejected about this characteristic. However, some cautious is needed, as these associations are only significant in the presence of control variable. Thus, the conclusions about this effect cannot be considered reliable and should be interpreted with caution.

Summarizing, the relationship between self-reported performance, risk tolerance and proactivity are positive. Consequently, it can be considered that hypotheses 1 and 3 are not rejected.

Table IV shows the results of the linear regressions, with the profit factor as the only dependent variable. Each column shows the results for the corresponding equation.

Table IV - Linear Regression Model Results

Variables	(3)	(4)
Risk Tolerance – H1	0,038	0,003
	(0,051)	(0,052)
Emotional Intelligence – H4	0,365***	0,316**
	(0,13)	(0,132)
Proactivity – H3	0,121	0,077
	(0,079)	(0,081)
Positive Urgency – H2	-0,177	-0,202*
	(0,111)	(0,114)
Negative Urgency – H2	0,035	0,083
	(0,095)	(0,104)
Lack of Perseverance – H2	-0,041	-0,052
	(0,118)	(0,117)
Lack of Premeditation – H2	0,096	0,185
	(0,121)	(0,122)
Sensation Seeking – H2	0,116	0,068
	(0,078)	(0,079)
Marital Status		0,145
		(0,103)
Gender		-1,559
		(1,233)
Spirituality		-0,177
		(0,2329)
Investments Purpose		0,423
		(0,256)
Annual Income in comparison to peers		-0,567
		(0,227)
Amount Invested in active trading		0,095
		(0,091)
Amount Invested in % of annual income		-0,061
		(0,145)

Education Level		-0,175
		(0,140)
Field of Study Finance		0,415
Related		(0,407)
Constant	-0,629	1,090
	(3,202)	(3,573)
Observations	140	140
R- Squared	0,117	0,221

Note: Robust Errors in parenthesis; *, **, *** indicate significance levels of 10%, 5% and 1%, respectively.

From Table IV, it can be observed in all estimated regressions that EI has a positive association with the profit factor of traders (performance as an objective measure). The value of the estimated emotional intelligence coefficient is positive and the highest value is obtained in equation 3, in the absence of control variables. The proposed hypothesis, hypothesis 4, is not rejected, for a 1% and 5% significance level.

Summarizing, emotional intelligence shows a positive relation with the profit factor. Hypothesis 4 is validated, traders that show higher levels of emotional intelligence will deliver higher performance on their investments in active trading.

Furthermore, Table IV shows that no further conclusion can be made about the relation between performance as an objective measure and the remaining characteristics, such as risk tolerance, proactivity, positive urgency, negative urgency, lack of perseverance, lack of premeditation and sensation seeking, since their coefficient values are not significant.

This dissertation points to not such a different reality in what concerns the relation between the characteristics stated above and the performance of traders since the results are quite intuitive and easy to understand. The results show that traders who are characterized by traits that are perceived to be good and useful for their investment performance will indeed influence positively their performance.

5 Conclusion

5.1 Final Conclusions

Traders' investment decisions and consequent success on their trades reflect a great deal of themselves and their personalities. Traders have to make investment decisions in a market environment of high volatility and informational ambiguity. They need to know to control and manage their emotions and to forecast the future. To outperform in the market requires information, knowledge and many technical qualities but also a pack of psychological characteristics that can truly affect the investment outcomes achieved.

Following the literature review and using some regression models to study the possible relation with performance, several variables were studied: risk tolerance, proactivity, emotional intelligence, positive urgency, negative urgency, lack of perseverance, lack of premeditation and sensation seeking. Traders' performance was measured using a self-reporting measure and an objective measure, the profit factor. Data was collected through a questionnaire held online.

The results show that differences in the individual's risk tolerance, proactivity and emotional intelligence lead to different levels of performance.

Regarding the relationship between performance and risk tolerance, traders that are more tolerant to risk deliver higher performance on their investments in active trading, as hypothesis 1 suggests. The willingness to take financial risk affects the investment performance of traders.

Concerning the relationship between performance and proactivity, results suggest that traders who have higher levels of proactivity will deliver higher performance on their investments in active trading. A trader that is proactive and so scans for opportunities, show initiative and take action, find the best investments, and consequently is inclined to achieve a better investment performance.

About the relationship between performance and emotional intelligence, results suggest that to the two variables are positively associated as well. Traders that show

higher levels of emotional intelligence, that have the ability to recognize and use emotions productively, deliver higher performance on their investments in active trading, according to hypothesis 4.

This dissertation is a pioneer study and shows evidence that some psychological characteristics of traders affect their investment outcomes. It suggests that some traits, namely risk tolerance, emotional intelligence and proactivity, influence and affect the performance of traders.

5.2 Limitations and Future Research

Some limitations of this dissertation are connected to the method used for collecting data, the questionnaire. Despite having requested it to be answered by traders and the fact that there is a question in the beginning that finishes the questionnaire for those who do not invest directly in financial markets, it is not possible to ensure that it was not done by people that did not trade directly in financial markets and that are not traders.

One of the performance measures used can also be pointed out as a limitation to the dissertation, since it was a self-reporting measure and this self-perception measure may be the cause for such high values of risk tolerance, since traders are likely to perceive their performance as better than others and fail to admit bad results. Nevertheless, the objective measure of performance, the profit factor also constitutes a limitation, since less traders are willing to provide such detailed information and not all of them use the same measures to keep on track of their performance. These could be some interesting aspects for future research to try to overcome.

In this dissertation, the kind of financial markets where traders invest were not discriminated. It could also be interesting to study the levels of risk tolerance, impulsivity, proactivity, positive urgency, negative urgency, lack of premeditation, lack of perseverance and sensation seeking (or even other kind of characteristics) and performance by markets such as stock markets, bond markets, commodity markets, derivatives markets, money markets futures market, foreign exchange markets or even Interbank lending Market.

6 References

Ameriks, J.,Salovey, P.& Wranik, T. (2009). Emotional Intelligence and Investor Behavior. *Review of General Psychology* 1, 1-28.

Bateman, T. S., & Crant, J. M. (1993). The Proactive Component of Organizational-Behavior - a Measure and Correlates. *Journal of Organizational Behavior* 14(2), 103–118.

Cyders, M. A., & Smith, G. T. (2009). Emotion-based Dispositions to Rash Action: Positive and Negative Urgency. *Psychol Bull* 134(6), 807–828.

Cyders, M.A., Littlefield, A.K., Coffrey, S., & Karyadi, K.A. (2015). Examination of a short-version of the UPPS-P Impulsive Behavior Scale. *Addictive Behaviors* 39(9), 1372-1376.

DeVellis, R. F. (1991). *Applied social research methods series, Vol. 26. Scale development: Theory and applications.* Thousand Oaks, CA, US.

Economic Times (2018) Risk return Trade off [Online]. Available from: https://economictimes.indiatimes.com/definition/risk-return-trade-off [Accessed: <24/05/2018>].

Economia e Finanças (2018). Os fatores determinantes de traders de sucesso [Online] Available from: <https://economiafinancas.com/2018/os-fatores-determinantes-de-traders-de-sucesso/> [Accessed: <15/05/2018>].

Feibel, B. J. (2003). *Investment Performance Measurement*. John Wiley, New York.

Fenton-O'Creevy, M., Davies, G., Todd Lins, J., Richards, D., Vohra, S., & Schaaf, K. (2011). Emotion Regulation and Trader Performance. *Presented at 15th conference of the European Association of Work and Organizational Psychology, Maastricht, The Netherland.*

Grable, J. (2000). Financial Risk Tolerance and Additional Factors that affect Risk Taking in Everyday Money Matters. *Journal of Business and Psychology* 1621 (June 2000), 36–43.

Grable, J., & Lytton, R. (1999). Financial risk tolerance revisited: the development of a risk assessment instrument. *Financial Services Review 8*(3), 163–181.

Investopedia (2018). Trader [Online]. Available from: <https://www.investopedia.com/terms /t/trader.asp> [Accessed: <27/04/2018>].

Kuzniak, S., Rabbani, A., Heo, W., Ruiz-menjivar, J., & Grable, J. E. (2015). The Grable and Lytton risk-tolerance scale : A 15-year retrospective. *Financial Services Review* 24, 177–192.

Landis, J.R., Koch, G.G. (1977). The measurement of observer agreement for categorical data. *Biometrics* 33(1), 159-74.

Lashgari, M. (2015). Decision making under uncertainty: the Impacts of emotional intelligence and behavioral patterns. *Academy of Accounting and Financial Studies Journal* 19(2), 159–167.

Li, W., Fay, D., Frese, M., Gau, X.& Harms, P. D. (2014). Reciprocal Relationship Between Proactive Personality and Work Characteristics : A Latent Change Score Approach. *Journal of Applied Psychology* 99(5), 948-965

Lynam (2013), D. Development of a short form of the UPPS-P Impulsive Behavior Scale. *[Unpublished Technical Report]*

Markowitz, H. (1952). Portfolio Selection. *The Journal of Finance* 7(1), 77–91.

Mayer, J. D., Salovey, P., Caruso, D. R., & Sitarenios, G. (2003). Measuring emotional intelligence with the MSCEIT V2.0. *Emotion* 3, 97-105.

Osborn, P. (2016). How psychology affects trading strategy. *London Academy of Trading* 1, 1-9.

Palsson, A. M. (1996). Does the degree of relative risk aversion vary with household characteristics. *Journal of Economic Psychology* 17, 771–787.

Pratt, J. W. (1964). Risk Aversion in the Small and in the Large. *The Econometric Society* 32(1), 122–136.

Qualtrics (2018). [Online] Available from: <http://teclisboa.co1.qualtrics.com/jfe/form/SV_emowmsBq2SEKX7T> [Accessed: <24/05/2018>].

SlideShare (2013). Objective and subjective performance measures. [Online] Available from:https://www.slideshare.net/jhunarar/objective-and-subjective-performance-measures [Accessed: <11/10/2018>].

Steenbarger, B.N. (2002). *The psychology of trading: tools and techniques for minding the markets*, 1st Ed. Hoboken, NJ: John Wiley & Sons.

Tornau, K., & Frese, M. (2013). Construct Clean-Up in Proactivity Research: A Meta-Analysis on the Nomological Net of Work-Related Proactivity Concepts and their Incremental Validities. *Applied Psychology* 62(1), 44–96.

Trading (2018). How to measure your trading performance [Online]. Available from: https://tradingsim.com/blog/how-to-measure-your-trading-performance/ [Accessed: <25/05/2018>].

Tuckett, D., Taffler, R. J. (2012). Fund Management: An Emotional Finance Perspective. *Research Foundation of CFA Institute*, 5-112.

UCLA Institute for Digital Research and education (2016). What does cronbach's alpha mean [Online]. Available from: https://stats.idre.ucla.edu/spss/faq/what-does-cronbachs-alpha-mean/ [Accessed: <23/09/2018>].

Whiteside, S. P., & Lynam, D. R. (2001). The five factor model and impulsivity: Using a structural model of personality to understand impulsivity. *Personality and Individual Differences* 30(4), 669–689.

Wood, A. S. (2010). Behavioral Finance and Investment Management. *Research Foundation of CFA Institute*, 1–7.

7 Appendix

Appendix I - Sample Description

		Frequency	Percentage
Gender	Female	14	93,4
	Male	198	6,6
	Total	212	100
Marital Status	In a Relationship for a long time	80	37,7
	Widowed	4	1,9
	Divorced	13	6,1
	Separated	6	2,8
	Never Married	75	35,4
	Married	34	16
	Total	212	100
Age	20 years or less	7	3,3
	21- 30 years	76	35,8
	31-40 years	62	29
	41-50 years	31	14,6
	51-60 years	29	13,6
	61-70 years	3	1,4
	More than 70 years old	4	1,8
	Total	212	100
Spirituality	Yes	90	42,5
	Not Sure	56	26,4
	No	66	31,1
	Total	212	100
Comparison to Peers about the annual income	Far above Average	10	4,7
	Somewhat above average	29	13,7
	Average	72	34
	Somewhat below average	84	39,6
	Far Below Average	17	8
	Total	212	100
Purpose Behind Investments	Long Term Wealth Creation	28	13,2
	Future Short Term Expenses	135	63,7
	Self-learning	27	12,7
	Other	22	10,4
	Total	212	100
Amount invested in percentage of annual income	0%-20%	34	16
	20%-40%	89	42
	40%-60&	44	20,8

	60%-80%	31	14,6
	80%-100%	14	6,6
	Total	212	100
Highest Degree or level of school completed	No schooling Completed	5	2,4
	High School	1	0,5
	Trade/ Technical/ Vocational Training	20	9,4
	Associate Degree	15	7,1
	Bachelor's Degree	7	3,3
	Master's Degree	65	30,7
	Professional Degree	88	41,5
	Doctorate Degree	11	5,2
	Total	212	100
Main Field of Study Finance Related	Yes	126	59,4
	No	86	40,6
	Total	212	100
Amount Invested in Active Trading	<5 TEUR	61	28,8
	5-25 TEUR	58	27,4
	25-50 TEUR	41	19,3
	50-75 TEUR	28	13,2
	75-100 TEUR	13	6,1
	100-125 TEUR	5	2,4
	>125 TEUR	6	2,8
	Total	212	100